

UNITED STATES DISTRICT COURT

DISTRICT OF OREGON

EUGENE DIVISION

MARK A. MANN

Plaintiff,

v.

UNITED STATES OF AMERICA

Defendant.

Case No.: 6:14-cv-01774-AA

DECLARATION OF MARK A. MANN IN
SUPPORT OF PLAINTIFF'S RESPONSE
TO DEFENDANT'S MOTION FOR
SUMMARY JUDGMENT

STATE OF OREGON)
) ss.
County of Deschutes)

I, Mark A. Mann, make this Declaration of my own personal knowledge:

1. I provide project engineering services for general contractors on highway and airport projects as a sole proprietor. Many of the projects are large, multi-year contracts ranging from \$1,000,000 to \$20,000,000. I have over 40 years experience in heavy construction and construction surveying. During the past 21 years I have had extensive training and experience in highway engineering, computer aided drafting and design (CADD or CAD) software applications, GPS and robotic surveying technology and Automated Machine Guidance (AMG). During the past 21 years I have worked on numerous projects designed under Federal Highway specifications and/or FHWA contracts.

2. The engineering services I provide include preparation of design files to facilitate

construction surveying, design files used for AMG, analyzing and quantifying earthwork quantities for contract payments, as well as design and CAD work to meet contract and contract change order requirements. My work involves creating CAD models of project design surface and ground surface models and requires converting data between numerous different software applications. These design and surface files are used by the surveyors and construction equipment to construct the project and therefore require a high level of precision and accuracy. It is my responsibility to insure the accuracy of the files I provide and I carry \$1,000,000 in errors and omissions insurance due to the potential cost liability of errors. However, I have never had a claim for providing erroneous data.

3. Many of the projects I work on are unit priced based contracts and can involve substantial quantities for earthwork and other pay items that are measured and paid for by volume, usually by the cubic yard. The contracting agencies and their design engineers provide estimates of these quantities, and part of my service involves verifying these quantities in order for the general contractor to get paid for the actual quantity of work performed. The actual quantity frequently varies from the estimated quantity and often results in an increase in the actual quantity over the estimated quantity. The process of verifying earthwork quantities requires comparing an original ground surface to a design or constructed surface using various CAD tools. This is the same type of process the design engineers use to determine the estimated quantities prior to construction. One of the initial procedures in the design process is to perform a topographical survey of the original ground that encompasses the limits of the project to be constructed. This survey data is made up of 3 dimensional points, generally in x,y,z (easting, northing, elevation) format and may also contain codes that define specific geographical

features, such as a drainage, ridge line, edge of existing road and so on. The next step in the design process is to convert the survey data into a surface model commonly referred to as a digital terrain model (DTM). Various CAD applications have proprietary file formats for these DTMs, which generally cannot be read or translated by other CAD applications. In order to verify earthwork quantities it is necessary to have an original ground surface DTM and a design surface DTM to compare to.

4. In the process of providing services for various projects I frequently request design data from the design engineer. On complex highway projects I always request the original ground surface file in LandXML format. LandXML is a non-proprietary file format that has been developed by a consortium of all of the major CAD software companies, as well as numerous design professionals in the transportation and land development industries. CAD software that is LandXML compliant has built in tools to convert various design data to xml format, as well as tools to import xml files. I have received LandXML (XML) files from numerous design professionals representing government agencies in the transportation field, including the Defendant, FHWA. In 2008 I requested and received XML files for the South Century Drive project and in 2009 I requested and received XML files for the Beaver Creek Road project, both FHWA projects. These projects were in the eight to ten million dollar range and were multi-year contracts. On both projects I identified errors in the design that facilitated construction and avoided costly design changes before construction commenced. I also identified earthwork quantities that the contractor would not have been paid for based solely on the agencies estimated quantities. This was made possible or greatly facilitated by Defendant's sharing of the requested design data in xml format. I requested and received these files in the normal course of

business with FHWA and did not find it necessary to request the data through FOIA.

5. During the past nine years I have exchanged design data with numerous design professionals using LandXML importing or exporting tools. Until the recent Tiller-Trail highway project I have never found it necessary to submit a FOIA request to any federal agency for design data that I requested and was denied during the normal course of business. I have also never been denied a request for XML data for the reason that it is overly burdensome to convert the data to the requested xml format. My requests for XML files have been denied by only two agencies involving two projects. One was the Oregon Department of Transportation I-5 project and the other FHWA Tiller-Trail Highway. Both requests were denied solely on the basis that it was not the agency's policy to provide data in the requested format.

6. I have reviewed Defendant's Declaration of Juan P. Aguirre in Support of Motion for Summary Judgment, Dkt. 22 and supporting Exhibit 1 - Technical Definitions, Dkt 22-1 and Exhibit 2 - Tiller Trail Specification Section 152 outlining Government Furnished Data. Dkt 22-2. I agree with Mr. Aguirre's technical definitions and note that page from Section 152 is part of the Tiller Trail Highway Special Contract Requirements. I have noted a number of factual discrepancies in Mr. Aguirre's declaration that demonstrate a genuine issue of material fact as I will address below.

7. "Providing the information requested by Plaintiff in XML and XSR formats would require WFLHD to create engineering records that do not exist." Dkt. 22, ¶ 9. This statement confuses the request for existing records to be provided in a specific format with the creation of new records. The engineering records I requested under FOIA, exist and are fundamental to the design of any WFLHD (WFL) road project as noted in part by Mr. Aguirre's declaration:

Plaintiff's FOIA request, FOIA Control No. 2014-0234, requested the following information relating to the Tiller Trail Highway Project: . . . (2) LandXML ("XML") file of the horizontal and vertical alignments; Dkt. 22, ¶ 5. Producing Horizontal and Vertical alignments are fundamental to highway design. Dkt. 22, ¶ 15.

The horizontal and vertical alignments are also clearly shown on the project plans as noted in Exhibit 4, Page 2. I have recently hired the services of an engineer specialized in GEOPAK design software to convert the horizontal alignment data to XML format and he performed the conversion from the job 167.gpk file provided by WFL through the FOIA request. I have attached Exhibit 5 showing a print view of the XML document. I was informed that the conversion process took less than a few minutes, using the LandXML export tools in GEOPAK. I have also verified the accuracy of the design centerline alignment and note that it is accurate. Mr. Aguirre also states, "I have personally created XML files of horizontal and vertical alignments fewer than 10 times at WFLHD." Dkt. 22, ¶ 15. However, Mr. Aguirre's declaration does not explain the time and effort necessary to perform this format conversion.

8. Mr. Aguirre's declaration explains the process required for producing a XML file of a GEOPAK TIN file. A TIN is defined as "A digital data file that represents a physical surface." Dkt. 22-1, ¶ 7. Both the original FOIA request dated March 28, 2014 and the subsequent FOIA request dated September 29, 2014, requested a XML of the original ground surface. Mr. Aguirre explains the process for creating a XML file from a GEOPAK TIN file as follows:

Producing an XML file is a multi-step process. After survey information is collected and design data is produced, the first step is producing a data (DAT) file from the cross sections using the GEOPAK reports tool. The second step is to convert the data file to a TIN file using other GEOPAK terrain tools. Once the TIN file is created it can be visualized and corrective steps applied for accuracy. The third step is to convert the TIN file to a XML file using software tools. At this stage of the procedure, the accuracy of an XML file cannot be verified without additional optional steps. Using a separate software tool and to verify accuracy, the fourth step requires the XML file to be reimported back

into a TIN file. Using another software tool, a fifth step is to use a separate software tool to compare the initially produced TIN and the TIN produced from the created XML file. This tool compares the separate TIN files so that any errors can be corrected. I have performed this multi-step procedure described here less than 10 times.

Dkt. 22, ¶ 13.

The above process explains the effort to create the TIN file. This multi-step process may be required in order to produce a XML file for the final design surface if a TIN file of that surface did not already exist. What it does not explain, is that the TIN file of the original ground surface is typically created by the survey department and is a fundamental component of the initial design process. Although I do not have GEOPAK software, I have taken numerous hours of training in the GEOPAK design workflow over the past several years and I have also confirmed this with other GEOPAK design professionals. I have performed or supervised the preliminary design surveying for dozens of highway designs and the creation of the original ground DTM or TIN is a fundamental initial step in all highway design CAD software. The original ground is an intricate part of the design and is denoted on the cross section drawings, plans and earthwork reports as shown in Exhibit 4.

9. Contrary to Mr. Aguirre's assertion, the process of converting an original ground surface TIN file is neither overly burdensome, nor does not require extensive effort. This conversion is a simple procedure using the DTM tools provided in GEOPAK. During the FOIA request process, I provided WFL with documentation on this process as noted in Exhibit 3 of the Declaration of Telina Thompson. Dkt. 23-3. The GEOPAK tool menu is graphically described in Exhibit 3, pages 10 - 11. Also included in Exhibit 3 is a screen shot from a training video that was provided to Ms. Thompson. This video is titled "Export-Import-DTM-LandXML.wmv" and is

identified as an email attachment in Exhibit 3, Page 1. I personally obtained this training video from WFL's website, on or around April 16, 2008. This training video demonstrates the process of exporting a TIN surface file to XML, as well as importing a XML file to create a TIN. The entire video takes 2 minutes and 6 seconds. I have taken screen shots of some pertinent excerpts of the video attached as Exhibit 1. This graphic representation of the export to XML process shows the time lapse in the lower bottom left on Pages 2 and 6. Page 6 is a screen shot of the contents of the XML file and shows a time lapse of 00:56, or 56 seconds. This process is also demonstrated in a one page excerpt from the Iowa DOT Design Manual attached as Exhibit 6. I recently performed a survey control network adjustment on a 12-mile long FHWA project near Seattle, Washington. The project is Middle Fork Snoqualmie River Road and is a contract administered by WFL. The work I performed was done under a change order between WFL and the prime contractor. I initially requested the original ground surface be provided in XML format by WFL through the contractor. The contractor advised me that this request was denied, but provided no detailed explanation as to why. I later requested that the original ground TIN file be provided in its native design format and obtained the wf02901.tin file on March 16, 2015. I have spent numerous hours during the past year in researching and contacting design professionals that use GEOPAK software, and who are willing to provide services to convert engineering data to XML. In February of this year I located a GEOPAK design professional that could perform this service for a fee of \$150 per hour, with a one hour minimum charge. On March 17, 2015, at 6:32 AM, I emailed the wf02901.tin file and received the wf02901.xml file back at 8:18 AM the same day. Despite the original estimate of \$150/hour and a one hour minimum, there was no charge for this conversion, due to the minute amount of time involved.

10. Mr. Aguirre's declaration describes the conversion of the TIN file to XML as, "The third step is to convert the TIN file to a XML file using software tools. At this stage of the procedure, the accuracy of an XML file cannot be verified without additional optional steps." Dkt. 21, ¶ 13. He does not explain how long this third step takes, but instead continues to describe a process for verifying the accuracy of the XML file. The services I provide demand a high level of accuracy and I take extensive steps to verify the accuracy of all data I receive from design engineers. I have received dozens of XML files in recent years from numerous design engineers and agencies. I have never requested that the accuracy of the XML files be verified by the engineer because this is a process that I must perform prior to incorporating the data into my work. Although nearly all design professionals provide XML and other design data when I make such requests during the normal course of business, nearly all include a disclaimer similar to the one provided by the Defendant in response to my FOIA request. The FOIA response letter was attached to the Declaration of Telina Thompson as Exhibit 4 and states in part, "Western Federal Lands (WFL) makes no guarantees as to the accuracy of the data files. WFL has not determined whether any of these records were used in the final design of the project." Dkt. 23-4.

11. Mr. Aguirre's declaration estimates that, "Creating XSR and XML files as requested by Plaintiff's September 29, 2014 FOIA request . . . would involve a substantial amount of work hours by an experienced Senior Designer and with consultation with the original Designer." I had consulted with a Bentley Systems engineer prior to submitting the FOIA requests, and he advised me that creating the XSR file is a simple process in GEOPAK and is generated using the reporting tools. I have recently provided the cross section files I received through FOIA, ORPFH 16(7)_XS.dgn and the associated job 167.gpk file to a GEOPAK design professional

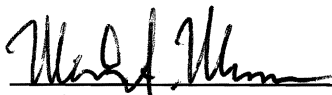
and requested that he generate the XS-List report as I requested under FOIA. He promptly processed the request and provided a 142 page ASCII report. He also provided a screen shot of the report menu from GEOPAK which I am including along with pages 1 and 142 of the report and a brief instruction on XSR Listing from Trimble Business Center software as Exhibit 2. As noted in Exhibit 2, Page 1, “In the Import Settings, you can have the data in the file create either cross-sections and a surface, or points and a surface on import.” I made the FOIA Request for the original ground cross section information, XS-List report as a possible alternative to the original ground surface in XML format. Had I been advised by WFL during the FOIA process that creating the requested information in a XSR report would involve an extensive amount of time, I would have elected to waive the XSR report in lieu of the original ground surface in XML format. However, the information in Exhibit 2, confirms my previous discussions with the Bentley Systems engineer that the process is a simple report tool in the GEOPAK software.

12. Mr. Aguirre’s declaration alleges, “The Plaintiff has been provided all of the information WFL maintains pertaining to his requests on the Tiller Trail Highway Project but only in the electronic drawing format in which WFL maintains it.” Dkt. 21, ¶ 19. This is contradicted by the previous explanation of the multi-step process necessary to produce the XML document of the original ground surface. He explains, “After survey information is collected and design data is produced, the first step is producing a data (DAT) file from the cross sections using the GEOPAK reports tool.” Dkt. 21, ¶ 13. As an experienced surveyor, I should explain that the cross sections referred to in this statement are part of the survey team’s field work and not the design cross section files provided in the FOIA request. These cross sections are performed by surveying the original ground along a line perpendicular to a road centerline at various intervals

and ground features. Based on my training and knowledge of GEOPAK, I do agree that creating a data (DAT) file from the survey data is a first step. I would also note that this necessary file was not provided in the FOIA response as suggested by Mr. Aguirre. More importantly absent from the 21 files provided in the FOIA response is the original ground surface, or TIN file. This is described by Mr. Aguirre's declaration, "The second step is to convert the data file to a TIN file using other GEOPAK terrain tools." Dkt. 21, ¶ 13. While I agree that this is a necessary step, I also know that this step is generally performed by the survey department, not the design engineers. This is based on my past experience with the WFL survey department, as well as an excerpt from a GEOPAK 2004 Guide I obtained from WFL's website, attached as Exhibit 3. This Guide explains, "Currently, it is the responsibility of the Survey Branch to provide the .TIN file to design." Exhibit 3. Mr. Aguirre's own statements conclude that the DAT and TIN files are necessary to create the original ground surface in XML, and yet neither of these files were provided in the 21 files posted on the WFL website in response to the FOIA request. The XSR report was readily reproduced from the files posted, based on the services I have had recently performed. The files necessary to create the "[T]he original ground three-dimensional surface data [*sic*] that is used to generate the final design, generate earthwork quantities, and define existing site features such as drainages, existing utilities, etc., in XML format;" Dkt. 22 ¶ 3, were not provided.

13. I make this declaration under penalty of perjury.

DATED this 8th day of June, 2015.



Mark A. Mann, Pro Se